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ANDROLOGICAL PROBLEMS IN DRUG ADDICTS

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ABSTRACT

Although some workers have already studied sexual health in males who are addict to drugs in different part of the country and abroad but not much work has been done in Punjabi males in India. Therefore the sexual health of 100 subjects was studied in the Dept. of physiology SGRD, IMSAR, Amritsar. All the subjects were in the age group of 18-30 years and belonging to same socio economic status. The subjects involved were from the rural and urban areas of Amritsar District who visited Amrit Drug Deaddiction and Research Foundation Centre, Amritsar for detox treatment.

Key Words: Drug Abuse, Erectile Dysfunction, Sexually Transmitted Infections

INTRODUCTION

The word Andrology comes from the Greek language, from the genitive *andros* which means belonging to the "man" and logos, speech, and is the medical specialty that deals with male health. So andrological changes means changes related to sexual health of male. Many commonly used drugs can interfere with male sexual function, either by decreasing libido, interfering with erectile function, or causing absent seminal emission or retrograde ejaculation. Recreational drugs are also a big factor in causing the effects of erectile dysfunction, with up to twenty five percent of cases being linked to drug induced side effects. Like alcohol, it may convince a user that it helps or increases the enjoyment of sexual intercourse, but can also impair sexual effectiveness. Recreational drugs that can cause erectile dysfunction include: Heroin, cocaine, Alcohol, Opiates etc. Recreational drugs can also cause serious damage to the blood vessels, making the effects of erectile dysfunction permanent. Several studies have demonstrated that of the various negative effects, prolonged use of drugs lead to impairment of sexual functions. More than 152 million men in the world suffer from erectile dysfunction. More of them are from developed countries such as Europe and the United States of America. 5 % of them are Russian. American study has showed that 52% of the men in the age of 19-59 suffer from erectile dysfunction. Experts have estimated that erectile dysfunction affects 30 million men in the United States. There exists a synergic relationship between drugs, addiction, and impotency. Opiate drugs are used clinically to treat pain, the best known examples being codeine, morphine and heroin (diamorphine). These are all opiate-receptor agonists - i.e. they stimulate the firing of opiate receptors to produce the effects on mood and behaviour. Opiates are clearly involved at a very basic level of sexual function, from early in the evolutionary chain, with effects on endocrine (hormone) function found in human and animal studies. In human subjects opiate therapy or abuse is widely associated with loss of libido (sex drive) .Opiates may shift the blood circulation from genital organs to other organs and this may cause sexual disorders like erectile dysfunction .Opiates can suppress testosterone production. More importantly, alcohol abuse or addiction inevitably has a negative affect on erectile function. Heavy alcohol use damages the nervous system, and this can become permanent. The signals from the brain to the pelvic nerves are cut off. When this becomes irreversible, it is called alcohol-induced impotence. Alcohol also interferes with the body's endocrine (hormone) system, resulting in lowered testosterone levels. Alcohol is a nervous system depressant and can actually block nerve impulses and messages between the brain and body. To overcome or compensate for the inadequacies and weakness of sex the youth starts adhering to alcohol and other sex enhancing drugs and these in turn create more serious health problems on the endocrine and nervous

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level. Many surveys have demonstrated that 25 percent of all alcoholics become impotent — even after they stop drinking. In India study was done for the frequency of sexual dysfunctions in patients attending a sex therapy clinic in north India and 23.6 percent of the patients attending the clinic were suffering from erectile dysfunctions. Our study was done in Punjabi males as the drug menace in Punjab is achieving alarming dimensions. Alcohol and drugs have become as much integral part of the economy and politics as the colorful youth. The drug epidemic is plaguing the youth of Punjab.. It is taking the form of fashion among youth. The new generation of teenagers is totally forgetting its glorious historical and cultural tradition and is wholly solely indulging in narcotics. Impotence or erectile dysfunction was once considered deadly nightmare. But now the negative effects are becoming so serious that even WHO has revealed that wide spread abuse of alcohol, opium, narcotics and other intoxicants have led to drastic fall in the average level of sperm count of Punjabis. The average sperm count of Punjabis has fallen from 60million to 15 million. This drastic fall of sperm count has further led to prevalence of male infertility among Punjabi youth.

MATERIALS AND METHOD

In our study we have taken 100 subjects who came to the centre for treatment. On average they were taking drugs for 3 years before they came for the treatment. Average age of starting using drugs for the first time was 20 years. Major reason for using the drugs first time was for getting pleasure and for the sake of fun (50 %) , peer pressure (20%) and to enhance sexual functions (20%). Main drug of abuse were opiates *i.e.* Heroin, Morphine, Propoxyphene capsules, Buprenorphine injections (60%) alcohol (30%) and 10 % others (sleeping pills, marijuana, etc.). Tobacco and its products were being used by 74 % of patients. All these patients were approached when they visited the de-addiction centre for the treatment and loss of libido was found to be one of the common complaints by the drug abusers. We took 100 male subjects for our study who were in the sexually active age group of 18-30years

RESULTS AND DISCUSSION

Countless television shows, movies and books have glorified certain aspects of drug use and sex. Some drugs like heroin and alcohol are portrayed as if they actually enhance sex, and for some people this might be true. However, that enhancement is short-lived and the sexual and reproductive consequences of long term drug use and drug addiction set in. The reality is that addiction can damage or destroy a person's sexual functions (Abel E. 1984) In our study about (20) % of patients had started experimenting with drugs initially because of sexual problems. When they presented for the treatment of drug addiction over 70% of drug dependent patients had erectile dysfunction and other sexual problems. Sexual dysfunction is independent of the reason that these individuals started using drugs for the first time. Most long term drug users and addicts report a decreased libido. .Eighty-seven percent (39 of 45) of opioid-ingesting men who reported normal erectile function before opioid use reported severe erectile dysfunction or diminished libido after beginning their opioid therapy. Commonly prescribed opioids in sustained-action dosage forms usually produce subnormal sex hormone levels, which may contribute to a diminished quality of life for many patients with painful chronic illness (Daniell HW 2002). This is largely attributed to drugs like heroin and marijuana that cause hormonal disruptions. Most commonly these disruptions involve a decrease in testosterone – a sexual regulator that controls desire and libido. Narcotics result in suppression of the hypothalamic-pituitary axis through opioid-induced inhibition of gonadotropin releasing hormone (GnRH) pulse patterns which leads to suppression of LH release and subsequent decrease in testosterone levels and spermatogenesis. Testosterone deficiency was documented in patients treated for heroin addiction with methadone over three decades ago (Azizi *et al.*, 1973; Cicero *et al.*, 1975). However, being an addict is extremely stressful mentally, physically and emotionally, so patients may experience decreased sexual desire as a result. In most cases erectile dysfunction is caused by low testosterone levels as a result of drug use, but can also be caused by circulatory and pulmonary issues caused by most opiates and alcohol. In some of the patients andrological dysfunction caused by these drugs may continue to persist for sometime even after they stop taking drugs (Daniell HW 2002). These patients require proper counseling and adequate treatment for sexual problems. Long-acting opioid

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preparations suppress the hypothalamic-pituitary-gonadal axis in men and produce a symptomatic state of opioid-induced androgen deficiency (OPIAD). Testosterone patch therapy at a dose of 7.5 mg/day normalizes hormone levels and appears to improve a number of quality of life parameters (eg, sexual function, well-being, mood) in men with opioid. (Daniell HW et al 2006).

As compared to the developed countries of the world sexual education and awareness in Indian males is almost negligible (Nath A et al 2009), (Gupta N et al 2004), (Aggarwal A et al 1996) (Landry DJ et al 2000).. Adolescence and young adulthood are particularly stressful and traumatic stages in the lives of Indian youths. In one way, they desire emancipation and liberation from family but residing in the matrix of the extended family makes it difficult for them to assert themselves and exhibit any independence in thought, action, or behavior. Social changes are gradually occurring but arranged marriages are still the norm, and dating generally is not allowed. Furthermore, sex and sexuality issues are not openly discussed, sex education is not readily available, interrelationships with the opposite sex are discouraged, and premarital sex is frowned upon. In the traditional Indian family, communication between parents and children tends to be one sided. Children are expected to listen, respect, and obey their parents. Generally, adolescents do not share their personal concerns with their parents because they believe their parents will not listen and will not understand their problems (Medora *et al.*, 2000). The Indian male suffers a unique dilemma regarding his sexual health thanks to the courtesy of quacks. The normal stages of adolescent development such as masturbation and night emissions are misinterpreted as signs of a severe internal disease needing treatment. By the time he has his first real sexual encounter with the opposite sex; he is under tremendous psychological pressure and may fail to perform. This aggravates his self doubt thereby making him believe the quacks. Now the unfortunate victim is ready for the final destruction of his life. He takes shelter under the deadly influence of drugs to overcome his sexual problems.

Certain tonics and virility capsules available in the market have opiates in them which have high addiction potential. When he starts using drugs, initially his problems seem to be solved and he is able to perform adequately. But in no time he gets trapped in the web of drug addiction from which escape is almost impossible. Natural rewards such as food, water, sex, and nurturing allow the organism to feel pleasure when eating, drinking, procreating, and being nurtured. Such pleasurable feelings reinforce the behavior so that it will be repeated (Arias Carrion *et al* 2010). Each of these behaviors is required for the survival of the species. Drugs hijack reward circuit of the brain and make the patient believe that drug are essential for his survival A critical component of this reward system is the chemical dopamine, which is released from neurons in the reward system circuits and functions as neurotransmitter. Through a combination of biochemical, electrophysiological, and imaging experiments, scientists have learned that all addictive drugs increase the release of dopamine in the brain. Some increase dopamine much more than any natural stimuli. (Wilson *et al.* 2005). Once he is dependent on drugs his simple psychological problems become serious organic disease. Under the effect of drugs the logical thought process is impaired and he may involve himself in unsafe sexual activities exposing himself to AIDS, Hepatitis C and other sexually transmitted infections (STI). Adolescents are disproportionally burdened by threats to their sexual health (Bearinger *et al* 2007), (WHO 2006). The largest proportion of STIs occur in youth (Dehne *et al* 2001) with up to 1 in 20 adolescents developing a new STI yearly (World Bank Report 2008) In India 31% of existing HIV cases are accounted for by young adults (aged 15-29), despite comprising less than 25% of the population (NACO 2010). Whilst there are numerous factors increasing adolescents' vulnerability to poor sexual health outcomes, including physiology, (Dehne et al 2001) economic dependence (NACO 2010), societal norms and gender imbalances (Marston *et al* 2006) the lack of access to accurate and comprehensive information regarding sexual health is a key contributor (Wellings et al 2006). (Benzaken et al 2011). Studies have highlighted Indian adolescents' misconceptions in their knowledge of contraception use and STIs (Nath et al 2009), (Gupta et al 2004), (Aggarwal et al 1996). The Indian National Family Health Survey 2005-06 reported that only 36% of male youths and 20% of females had a comprehensive knowledge of HIV/AIDS (NFHS-3). Gupta et al. found that less than one-fifth of participants were aware of STIs other than HIV and only 19.8% of students were aware of at least one method of contraception. New and more accurate estimates of HIV indicate that approximately 2.4 million people in India are living with HIV (UNAIDS 2007).

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In industrialized countries, almost a quarter of a million youth are living with HIV or AIDS (UNPF 2008). Higher rates of sexually transmitted infections (STIs) signal a rise in unsafe sex and highlight the need for renewed prevention efforts, especially among youth (UNPF2008). HIV and HCV infections among intravenous drug users in Punjab is very high (26.1%) as compared to national level (9%) (NACO 2006). The most unfortunate part of these tragic consequences is that he can transmit these deadly diseases to his innocent wife.

The conclusion of our study is that there is need for adequate scientific and sex education of the youth at the right time. The concerned authorities need to impose a ban on unqualified individuals, spurious medications and misleading advertisements. Illicit drug use is prevalent in our society and may adversely impact male fertility. Use of these illicit substances is often during reproductive years or during critical periods of testicular development. Illicit drug use affects the hormonal axis as well as causes impairments in semen analysis and functional sperm parameters.

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